

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (cancelled).
2. (cancelled).
3. (cancelled).
4. (cancelled).
5. (cancelled).
6. (currently amended) An electron transporting material comprising an organic matrix and ~~a an-organometallic~~ dopant, wherein said dopant is an organometallic compound capable of transferring electrons to said organic matrix, ~~and~~ wherein said electron transporting material has a higher conductivity than undoped organic matrix, and wherein said organometallic compound comprises Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Zr, Nb, Mo, Tc, Ru, Rh, Pd, Ag, Cd, Hf, Ta, W, Re, Os, Ir, Pt, Au or Hg.
7. (original) The electron transporting material of claim 6 wherein said dopant has an ionization potential within about 0 to about 0.5 eV of the LUMO energy level of said organic matrix.
8. (original) The electron transporting material of claim 6 wherein said dopant has an ionization potential lower than the LUMO energy level of said organic matrix.
9. (original) The electron transporting material of claim 6 wherein said dopant is stable in oxidized form.

10. (original) The electron transporting material of claim 6 wherein said dopant decomposes to redox inactive materials upon oxidation.
11. (original) The electron transporting material of claim 6 wherein said dopant is present in said organic matrix in an amount of about 0.05 to about 25 percent by weight.
12. (original) The electron transporting material of claim 6 wherein said organic matrix comprises unsaturated hydrocarbons, unsaturated N- and O-containing heterocycles, or metal complexes.
13. (currently amended) The electron transporting material of claim 6 wherein said organic matrix comprises phenanthrolines, carbazoles, oxadiazoles ~~oxidiazoles~~, triazoles, triazines, imidazoles, or benzimidazoles.
14. (currently amended) The electron transporting material of claim 6 wherein said organic matrix comprises bathocuprione, aluminum tris(8-hydroxyquinoline), 4,4'-dicarbazolyl-biphenyl, octaphenylcyclooctatetraene, zirconium tetra(8-hydroxyquinoline), hafnium tetra(8-hydroxyquinoline), 3-phenyl-4-1-naphthyl-5-phenyl-1,2,4-triazole, or 3-(p-tertiary butyl-phenyl)-4-(p-biphenyl)-1,2-oxadiazole ~~oxidiazole~~.
15. (original) The electron transporting material of claim 6 wherein said organic matrix comprises a polymer.
16. (original) The electron transporting material of claim 15 wherein said dopant is covalently attached to said polymer.
17. (currently amended) The electron transporting material of claim 15 wherein said polymer is a cyano-substituted polyphenylenevinylene, an ~~oxidiazole~~ oxadiazole-containing polymer, or a triazole-containing polymer ~~polymer~~.
18. (cancelled).
19. (cancelled).

20. (cancelled).

21. (cancelled).

22. (cancelled).

23. (cancelled).

24. (cancelled).

25. (cancelled).

26. (cancelled).

27. (cancelled).

28. (cancelled).

29. (currently amended) A method for selecting an organometallic dopant for increasing conductivity of an organic matrix of an electron transporting material, said method comprising:

determining the ionization potential of said dopant;

determining the LUMO energy level of said organic matrix; and

selecting said dopant if said ionization potential is lower than said LUMO energy level, or if said ionization potential is within about 0 to about 0.5 eV of said LUMO energy level;

wherein said organometallic dopant comprises Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Zr, Nb, Mo, Tc, Ru, Rh, Pd, Ag, Cd, Hf, Ta, W, Re, Os, Ir, Pt, Au or Hg; and wherein said organometallic dopant is capable of transferring electrons to said organic matrix.

30. (cancelled).

31. (currently amended) ~~A-charge~~ An electron transporting material comprising an organic matrix and a dopant[~~[[,]]~~]; wherein said dopant is an organometallic compound comprising at least one cyclopentadienyl ligand optionally substituted by one or more substituents selected

from H, an electron withdrawing substituent, or an electron donating substituent; wherein said organometallic compound further comprises Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Zr, Nb, Mo, Tc, Ru, Rh, Pd, Ag, Cd, Hf, Ta, W, Re, Os, Ir, Pt, Au or Hg; and wherein said dopant is capable of transferring electrons to said organic matrix.

32. (cancelled).

33. (cancelled).

34. (cancelled).

35. (currently amended) The ~~charge~~ electron transporting material of claim 31 wherein said cyclopentadienyl ligand is substituted by at least one electron withdrawing substituent or electron donating substituent.

36. (currently amended) ~~A charge~~ An electron transporting material comprising an organic matrix and a dopant[~~],~~]; wherein said dopant is an organometallic compound comprising at least one arene ligand optionally substituted by one or more substituents selected from H, an electron withdrawing substituent, or an electron donating substituent; wherein said organometallic compound further comprises Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Zr, Nb, Mo, Tc, Ru, Rh, Pd, Ag, Cd, Hf, Ta, W, Re, Os, Ir, Pt, Au or Hg; and wherein said dopant is capable of transferring electrons to said organic matrix.

37. (cancelled).

38. (cancelled).

39. (cancelled).

40. (currently amended) The ~~charge~~ electron transporting material of claim 36 wherein said arene ligand is substituted by at least one electron withdrawing substituent or electron donating substituent.

41. (cancelled).

42. (cancelled).

43. (cancelled).

44. (cancelled).

45. (cancelled).

46. (currently amended) ~~A charge~~ An electron transporting material comprising an organic matrix and a dopant, wherein said dopant is a metallocene having the formula $M(L^1)(L^2)$, wherein L^1 has the formula:



and L^2 has the formula:



wherein:

each R^1 , R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 , R^9 , and R^{10} is, independently, H, an electron withdrawing substituent, or an electron donating substituent; and

M is a metal atom Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Zr, Nb, Mo, Tc, Ru, Rh, Pd, Ag, Cd, Hf, Ta, W, Re, Os, Ir, Pt, Au or Hg; and

wherein said dopant is capable of transferring electrons to said organic matrix.

47. (cancelled).
48. (currently amended) The ~~charge~~ electron transporting material of claim 46 wherein M is Fe, Co, or Cr.
49. (currently amended) The ~~charge~~ electron transporting material of claim 46 wherein at least one R¹, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, and R¹⁰ is an electron withdrawing substituent.
50. (currently amended) The ~~charge~~ electron transporting material of claim 46 wherein at least one R¹, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, and R¹⁰ is an electron donating substituent.
51. (currently amended) The ~~charge~~ electron transporting material of claim 46 wherein at least one R¹, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, and R¹⁰ is alkyl, alkoxy, amino, mercapto, or phosphino.
52. (currently amended) The ~~charge~~ electron transporting material of claim 46 wherein at least one R¹, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, and R¹⁰ is aryl, cyano, nitro, carbonyl, tricyanoethenyl, or perfluoroalkyl.
53. (currently amended) The ~~charge~~ electron transporting material of claim 46 wherein at least one R¹, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, and R¹⁰ is halogen.
54. (currently amended) The ~~charge~~ electron transporting material of claim 46 wherein L¹ and L² are covalently linked by a linking group.
55. (currently amended) The ~~charge~~ electron transporting material of claim 46 ~~54~~ wherein said linking group comprises an alkyl, aryl, or silyl group.
56. (cancelled).
57. (cancelled).
58. (cancelled).

59. (cancelled).

60. (cancelled).

61. (cancelled).

62. (cancelled).

63. (cancelled).

64. (cancelled).

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71. (cancelled).

72. (cancelled).

73. (cancelled).

74. (cancelled).

75. (cancelled).

76. (cancelled).

77. (cancelled).

78. (currently amended) A ~~charge~~ An electron transporting material comprising an organic matrix and a dopant~~[[,]]~~; wherein said dopant is incapable of transferring charge to said organic matrix except when said dopant is optically excited; wherein said dopant is an organometallic compound comprising Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Zr, Nb, Mo, Tc, Ru, Rh, Pd, Ag, Cd, Hf, Ta, W, Re, Os, Ir, Pt, Au or Hg; and wherein said optically excited dopant transfers electrons to said organic matrix.

79. (cancelled).

80. (cancelled).

81. (original) The electron transporting material of claim 78 wherein said dopant is chemically altered upon oxidation.

82. (original) The electron transporting material of claim 78 wherein said dopant is an organometallic compound comprising Ir, Re, Os, Pt, or Au.

83. (currently amended) An organic light emitting device comprising the electron ~~charge~~ transporting material of claim 1.

84. (original) An organic light emitting device comprising the electron transporting material of claim 6.

85. (cancelled).

86. (currently amended) An organic light emitting device comprising the electron ~~charge~~ transporting material of claim 31.

87. (currently amended) An organic light emitting device comprising the electron ~~charge~~ transporting material of claim 36.

88. (cancelled).

89. (currently amended) An organic light emitting device comprising the electron ~~charge~~ transporting material of claim 46.

90. (cancelled).

91. (cancelled).

92. (currently amended) An organic light emitting device comprising the electron ~~charge~~ transporting material of claim 78.

93. (currently amended) A method for increasing the power efficiency of an organic light emitting device comprising incorporating in said device the electron ~~a-charge~~ transporting material according to claim 1.

94. (currently amended) A method for increasing the efficiency of an organic light emitting device comprising incorporating in said device ~~[[a]]~~ the electron transporting material according to claim 6.

95. (cancelled).

96. (currently amended) A method for increasing the efficiency of an organic light emitting device comprising incorporating in said device ~~a-charge~~ the electron transporting material according to claim 31.

97. (currently amended) A method for increasing the efficiency of an organic light emitting device comprising incorporating in said device ~~a-charge~~ the electron transporting material according to claim 36.

98. (cancelled).

99. (currently amended) A method for increasing the efficiency of an organic light emitting device comprising incorporating in said device ~~a-charge~~ the electron transporting material according to claim 46.

100. (cancelled).

101. (cancelled).

102. (currently amended) A method for increasing the efficiency of an organic light emitting device comprising incorporating in said device ~~a charge~~ the electron transporting material according to claim 78.